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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,426	12/03/2003	Dennis R. Simons	246079US6	4013

22850 7590 03/16/2006

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EXAMINER
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HOFFMANN, JOHN M

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 03/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/725,426	SIMONS ET AL.	
	Examiner	Art Unit	
	John Hoffmann	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 1/13/06.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) 1-6 and 8-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1-13-06 has been entered.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-6, and 8-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1: it is not understood what is meant by "according" (line 1) to a PCVD process. Namely it is unclear if the method itself is a PCVD method, or if it just requires a process (i.e. a sub-process) within it that is also in a PCVD process. Most notably, see claim which requires the formation of a plasma in the tube: this indicates that claim 1 does not require the formation of plasma. And since claim 1 does not require plasma, it need not be a PCVD process. Still further since the "one or more a chemical vapor

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deposition reactions in a substrate tube” occurs in every PCVD process – it is unclear whether the preamble has improper multiple inclusion of the same step or what.

Lines 2-3 of claim 1 refers to “one or more a chemical...reactions”: it is unclear if the “a” should not be in claim – and if it should be, how it effects the claim.

Step (i) it is unclear what is meant by a “doped or undoped” precursor. Examiner has never heard of such a precursor before. It would appear that the every precursor is either doped or undoped, so the phrase does not appear to add anything to the claim. Furthermore, the preceding “one or more” might suggest that the claim excludes a combination of doped and undoped precursors. It is suggested that “doped or undoped” be removed from the claim.

The term “stoichiometric excess” is indefinite as to its meaning. First it is noted that there is no definition in the specification (that examiner could find). Second, part (iii) suggests that the excess is a reactant that is reacted. To one of ordinary skill, if something is reacted, it is not in excess.

Part (iii) there is no antecedent basis for “the reactants”. See previous paragraph which indicates that it is unclear whether the excess is one of the unnamed reactants. A claim can only provided implied antecedent basis a term (i.e. “the reactants”) only if it is clear what it is.

There is also confusing antecedent basis for “the deposition” and “a reaction” of step iii). Or to look at it another way: it is unclear if the preamble breathes life and meaning to the claim. The preamble refers to deposition and “one or more reactions”. Thus if the preamble does breathe life and meaning, then iii) should refer to “the one or

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more reactions" (rather than "a reaction"). But if the preamble does not breathe life and meaning, then iii) should refer "a deposition" rather than "the deposition."

Step v) there is no antecedent basis for "the Reynolds number" or "the temperature and pressures conditions that prevail..." It is unclear what is meant by "prevail". Examiner assumes it means the mean, the median, the mode or the highest – but there is no indication of which it is. According to Examiner's dictionary, "prevail" is used to mean "to be frequent predominate" (which would correspond to the mode or maybe median or mean) . It also means "to gain ascendancy through strength or superiority"; this suggests the maximum temperature. It is noted that Geittner at col. 1, lines 39 indicates that there is non-isothermal PCVD – Since there is more than one temperature, there is no single temperature condition.

Claim 2 there is confusing antecedent basis for "pressure" – one would be unable to tell if it is the pressure condition of part (v)

Claims 3 and 8, there is confusing antecedent basis for "temperature." One would be unable to tell if it is the same temperature mentioned in part v).

Claims 4, 9 and 10: it is unclear if the excess is in addition to the excess of claim 1, or if it further describes it.

Claim 5, 11-13 as indicated above it is unclear whether claim 1 already requires the use of plasma. And since iii) already effects the deposition, it is unclear if claim 5 is requiring an extra step that deposits other layers.

Claim 6: there is no antecedent basis for "the plasma zone".

***Claim Rejections - 35 USC § 103***

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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Claims 1-6 and 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geittner in view of Davis and optionally in view of Roba.

See the prior office action for the manner in which Geittner and Roba are applied.

Roba is currently applied 'optionally' to add distinctness to the Offices two a major arguments. 1) Without Roba: Geittner discloses substantially the same parameters and results as applicant, thus one would inherently have the same Reynolds number, and 2) With Roba: Roba teaches that the Reynolds number is a result –effective variable in the inside vapor deposition process- thus it would have been obvious to perform routine experimentation to determine the optimal Reynolds number.

Claim 1 newly requires a deposition rate of at least 2 g/min. Page 818, 2<sup>nd</sup> col. Line 4 of Geittner teaches rates of 0.5-3.0 g/min. It would have been obvious to deposit as much glass as desired, depending upon the size of the desired preform.

**From MPEP 2144.04**

**A. Changes in Size/Proportion**

In re Rose , 220 F.2d 459, 105 USPQ 237 (CCPA 1955) (Claims directed to a lumber package "of appreciable size and weight requiring handling by a lift truck" where held unpatentable over prior art lumber packages which could be lifted by hand because limitations relating to the size of the package were not sufficient to patentably distinguish over the prior art.); In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976) ("mere scaling up of a prior art process capable of being scaled up, if such were the case, would not establish patentability in a claim to an old process so scaled." 531 F.2d at 1053, 189 USPQ at 148.).

In Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

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Regardless of what rates one gets for a certain set of parameters, one can always scale up the process to increase the rate.

### ***Response to Arguments***

Applicant's arguments filed 1/13/2006 have been fully considered but they are not persuasive.

It is argued that the Office was incorrect in surmising that the Reynolds number range can be derived from the Geittner article. This is incorrect; the Office makes no such assertion. The Office relies on inherency: the Reynolds number is inherent – there is no need to derive the number. The rejection also points out it is a known result-effective variable, and that one would have been motivated to find the optimal value therefore.

Applicant cannot get a patent merely for determining the optimal Reynold number.

From MPEP 2112: "The express, implicit, and inherent disclosures of a prior art reference may be relied upon in the rejection of claims under 35 U.S.C. 102 or 103."

Thus a rejection under 35 USC 103 can still be proper even though the Reynolds number is not expressly taught.

#### **From MPEP 2145**

#### **II. ARGUING ADDITIONAL ADVANTAGES OR LATENT PROPERTIES**

**Prima Facie Obviousness Is Not Rebutted by Merely Recognizing Additional Advantages or Latent Properties Present in the Prior Art**



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Mere recognition of latent properties in the prior art does not render nonobvious an otherwise known invention. In *re Wiseman*, 596 F.2d 1019, 201 USPQ 658 (CCPA 1979) (Claims were directed to grooved carbon disc brakes wherein the grooves were provided to vent steam or vapor during a braking action. A prior art reference taught noncarbon disc brakes which were grooved for the purpose of cooling the faces of the braking members and eliminating dust. The court held the prior art references when combined would overcome the problems of dust and overheating solved by the prior art and would inherently overcome the steam or vapor cause of the problem relied upon for patentability by applicants. Granting a patent on the discovery of an unknown but inherent function (here venting steam or vapor) "would re-move from the public that which is in the public domain by virtue of its inclusion in, or obviousness from, the prior art." 596 F.2d at 1022, 201 USPQ at 661.); In *re Baxter Travenol Labs.*, 952 F.2d 388, 21 USPQ2d 1281 (Fed. Cir. 1991) (Appellant argued that the presence of DEHP as the plasticizer in a blood collection bag unexpectedly suppressed hemolysis and therefore rebutted any *prima facie* showing of obviousness, however the closest prior art utilizing a DEHP plasticized blood collection bag inherently achieved same result, although this fact was unknown in the prior art.).

"The fact that appellant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious." *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985) (The prior art taught combustion fluid analyzers which used labyrinth heaters to maintain the samples at a uniform temperature. Although appellant showed an unexpectedly shorter response time was obtained when a labyrinth heater was employed, the Board held this advantage would flow naturally from following the suggestion of the prior art.). See also *Lantech Inc. v. Kaufman Co. of Ohio Inc.*, 878 F.2d 1446, 12 USPQ2d 1076, 1077 (Fed. Cir. 1989), cert. denied, 493 U.S. 1058 (1990) (unpublished — not citable as precedent) ("The recitation of an additional advantage associated with doing what the prior art suggests does not lend patentability to an otherwise unpatentable invention.").

In *re Lintner*, 458 F.2d 1013, 173 USPQ 560 (CCPA 1972) and In *re Dillon*, 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1990) discussed in MPEP § 2144 are also pertinent to this issue.

It is argued that Roba's value for the Reynold's number is based on the thermophoresis effect and thus does not relate to PCVD which has no thermophoresis. This is not convincing because it still shows that the Reynold's number is a known result effective variable. More specifically: it effects whether the flow is laminar or turbulent – and since Geittner teaches laminar flow, one would have been motivated to optimize the Reynold's number.

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In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00-3:30.

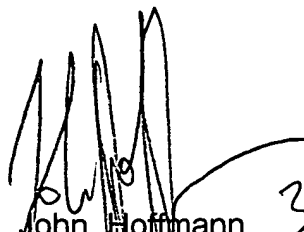
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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John Hoffmann  
Primary Examiner  
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3-14-06

jmh